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AUTHOR Mauch, James; Cann, Kenneth
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ABSTRACT

The Inter-American Center for the Teaching of Statistics (CIENES), Santiago, Chile--an educational unit of the Organization of American States (OAS)--was evaluated. Elements which were assessed included operating costs and program results; methods of meeting user needs more effectively; identification of possible duplication; and ways in which CIENES might operate more effectively and efficiently. The following evaluation methods were used: (1) document analysis; (2) interviews with students and graduates of the organization, and officials in agencies, universities, and international organizations knowledgeable about CIENES; (3) analysis of budgets and other financial documents; (4) evaluations by the heads of statistical services of the governments which are members of OAS; and (5) meetings with OAS officials. Conclusions which were reached indicated a high-quality program and adequate physical plant and equipment; weaknesses in budgeting and operating costs control; some program duplication; and the need for more administrative and fiscal autonomy. Recommendations were made to encourage CIENES graduates to provide technical assistance to help nations develop local national institutional capacities in training their own statisticians, and to solve some of the perceived weaknesses. (MH)

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EVALUATION OF THE INTERAMERICAN CENTER FOR TEACHING STATISTICS (CIENES)

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

James Mauch

University of Pittsburgh

Kenneth Cann

Western Kentucky University

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Paper delivered at the 1979 annual meeting of the American Educational Research Association, San Francisco, April 8-12, 1979.

INTRODUCTION

Economic and social development is a primary goal of all of the countries of Latin America. Development, however, using that term in the broadest sense, is not easy to achieve. Resource scarcities are a pervasive fact in all human societies - more so in the less developed countries than in those more industrialized. As a result, developing countries must exert a great effort to extract the most product from available resources while keeping waste to a minimum.

Economic resources may be placed in four main categories; human or labor resources, land or natural resources, capital resources or the tools used for production, and knowledge which is sometimes called technology.

At first glance,statistics may seem to have little relation to the four main resource categories because resources are usually thought of in physical terms, such as tons or iron ore, acres of land, numbers of workers, and machines. Statistics, however, is a vital part of knowledge which manifests itself in several different ways; first, simply as the methods and techniques of gathering data; second, as the development of information systems; third, as the methods and techniques of analyzing data or information already gathered. Since statistics consists of series of data, as well as the methods of gathering and using data, it provides the means of gaining knowledge about a society, and using that knowledge for decision-making purposes.

Accurate statistical information is a necessary prerequisite for economic and social development. The decision makers of a country need information in order to make rational decisions. The decision makers may be private business firms, governmental agencies, or scholars. All, however, share the common need for reliable statistical data and the knowledge for using that data in a productive manner. Rational decision making leads to the avoidance of economic waste or the use of scarce resources in such a manner that economic welfare is maximized.

There seems to be little disagreement with the observation that historically businessmen and government leaders in Latin America have been constrained in the formulation of policy decisions because

basic socio-economic statistical series were either not available or were inaccurate, and an insufficient number of trained people were available to analyze the existing statistical data.

The extreme scarcity of information and people possessing analytical skills, in relation to land, human, and capital resources, contributes to a chronic condition of underdevelopment.

Is is against this background that the Organization of American States recognized the need to improved statistical reporting and training. OAS efforts in this direction have taken several different forms during the post-war period. Since 1962 a substantial effort has been made to improve the quality of statistical information generation and training through the establishment and operation of the Inter-American Center for the Teaching of Statistics, (CIENES) in Santiago, Chile.

Purpose of Study

The purpose of this evaluation study, as set out in the terms of reference was, in brief, to evaluate the administration of CIENES; assess operating costs and program results; identify possible ways to better meet user needs, identify possible duplication and ways in which CIENES might operate more effectively and efficiently.

Methodology

The methodology of the evaluation consisted of the following:

1. A review of the purposes of CIENES and the status of statistical training in Latin America through documents and interviews with OAS personnel.

2. A review of the degree to which the purposes were accomplished by analyzing documents and by interviews in Chile, Peru, Panama and Washington with—

   a. CIENES students,

   b. CIENES graduates,

   c. officials in agencies which made use of CIENES graduates and services,

   d. officials in universities and international organizations having an informed opinion of the nature and value of CIENES services, and

e. present and past professors of CIENES.

3. An analysis of budgets and other financial documents to ascertain, where possible, the costs of CIENES services and to compare these costs where possible to other available data.

4. An official request was made through OAS to all member states for information relative to the evaluative opinions each member state might have about the services of CIENES. The request was directed to the head of the statistical services of the government of each member state.

5. The mission met with OAS officials March 7, 8, and 9th and left for Santiago on March 14, 1978. Short visits to Lima and Panama City took place between March 26 and April 1.

UNIVERSITY ANTECEDENTS OF UNDERDEVELOPMENT

Universities in Latin America, one would think, would be training persons to meet national development needs, in this case the need for statisticians. Evidence is that they are, in general, not doing so. Even such a positive commentator as Galo Plaze (Plaza-Lasso, 1971, p. 134) has observed that Latin American universities are not oriented to the national needs but rather to the student elite establishment. The study of statistics historically has not been one that would generate great enthusiasm among elites or among upwardly striving students. Much better to study law, medicine or philosophy.

Further, our interview data indicates that students are presently accurate in their assessment. Job opportunities and professional status are not attractive relative to other professions.

Another factor is the traditional budget inadequacies which all too often characterize Latin American universities, and the possibility that the universities are too poorly organized and managed to spend wisely and efficiently the budget they get. Rational program decisions based on national developmental needs of a modern society are not the area of strength of traditional universities, and this affects the decision-making process with regard to program, curricula, and research support available to students and faculty. Students generally are still not receiving the education that will equip them to assume responsibilities in modern development technologies so sought after by governments in Latin America. Curricula are still in need of broadening to meet the demands of modern societies. There is still too little basic and applied research in universities (Gomez-Millas, 1965).

Another facet of the problem is the traditional shortage of highly specialized professionals, a fact which often prevents the university, even when it wants to do so, from offering training in technological fields or conducting research designed to speed up the developmental process. The teaching and study of statistics, from our evidence, is an apt illustration of this generalization. Graduates of the Master's Degree program at CIENES have largely entered university faculty ranks and carry much of the instructional load throughout Latin America, an index of the shortage (Cann, Mauch, Leavitt, 1978).

Another facet of the problem is the student and faculty activism which has seemed characteristic of the Latin American university. Strikes and closings of weeks and months are not uncommon in the life of an institution. The causes are complex - irrelevant curricula, demeaning and dehumanizing teaching methods, poorly prepared teachers and students, unwarranted governmental and political intervention, authoritarian violations of human rights, sharp conflicts over university autonomy - and differ from place to place, but the end result is usually that intense political conflict has been brought into the classroom and the university atmosphere has not been conducive to a high quality stable, sustained, reflective, analytical educative process for many students (Solvert, 1964).

These are some of the generalizations that are often made by observers. Although exceptions abound, these generalizations are clear to us as we visit our sister institutions in Latin America and talk with the faculty, students and administrators who make up the universities. These observations are relevant here because they help to explain the existence of a need in Latin America which organizations like OAS fill, whereas North Americans would expect universities to fill such needs.

THE ORGANIZATION OF AMERICAN STATES

The case of CIENES is better understood within the contex, not only of Latin American universities, but also of the organization of American States. The OAS is the oldest of the world's regional international organizations, and a principal vehicle for multinational regional cooperation in the Americas. The work of the OAS has changed over the years and in the past several decades it has concentrated its resources on technical cooperation and regional economic and social development programs. Regional programs were begun in educational development and scientific and technological development, and both programs support regional training centers like CIENES (Plaza-Lasso, 1971, p. 136-151).

The Centers in general have served several needs not always met and certainly not adequately met in earlier times. For one thing the

Centers (and CIENES would be an example here) can offer educational opportunities which can only be obtained at great universities, sometimes requiring travel abroad. At the Center, students can pursue studies in their own language and environment instead of traveling to Europe or the United States for a technical area, such as statistics. The student who goes overseas and successfully studies a profession or discipline in demand often stays, thus further contributing to the gap between developed and underdeveloped nations. The Center, by offering appropriate training locally, helps to retain the skills in the countries that need them most. Centers also benefit the host country by putting together a group of faculty, a critical mass of expertise, which represents a consultative resource and pool of knowledge and experience that is in constant demand - not only in the host country but also throughout Latin America.

CIENES exists, and is viewed by its clients as successful, because it fills a need no university is presently filling - short term, concentrated, high level instruction of an immediately practical and useful nature. It clearly meets national development needs, at least as defined by Latin American nations and by the OAS, because the nations and the OAS are its sources of students and funds. Our evidence was clear that the courses do equip students to assume technical responsibilities needed by developing countries. The political problems and strikes which plague Latin American universities are relatively absent at CIENES. Therefore, it was apparent to the investigators that CIENES, as an educative instrument of OAS, has been effective in reaching its goals.

There are other questions that are relevant, however. Should the OAS role continue as (clearly successful in at least this case) an educator? Is OAS devoting too many and too few resources to education, and are existing resources used optimally? Are the goals still appropriate and useful, or should they be changed and, if so, how? These are illustrative of issues we examined in this one case, the case of CIENES.

CONCLUSIONS

1. Quality of CIENES Programs

a. General: The quality of CIENES programs was found to be high in terms of instruction, curriculum, and administration. This high quality has been sustained over time.

b. Professional Staff: The current instructional staff is inter-American in make-up. On the basis of interviews and the examination of curriculum vitae, all of the professors have excellent backgrounds and experience, and are highly competent at teaching statistical subject matter. All of the professional staff works on a full-time basis on twelve month contracts. The professional staff is dedicated to the goals and mission of CIENES, and are sensitive and attentive to student needs.

c. Curriculum: The curriculum is sound and on a par with high quality statistical education found in Europe and the United States.

2. Physical Plant and Equipment

a. The CIENES building is attractive, of ample size, adequately maintained, and has an appropriate mixture of administrative, classroom, faculty office, computer center, and library space. The building is a contribution of Chile and is located on grounds occupied by the School of Economics of the University of Chile.

b. The amount and kinds of equipment are in satisfactory relation to CIENES programs. At the present time computer facilities are being expanded and up-graded.

c. The library is of ample size, convenient to use, and contains a good collection of books and periodicals dealing with statistics.

3. Views of Graduates

The graduates' assessment of CIENES was very high. There was a large measure of agreement concerning the following generalizations about CIENES:

1. The level of instruction is appropriate to the objectives of the courses and to the needs of the students.

2. The instruction is intensive, more so than it would be in other institutions of higher education according to students who had the experience to make such comparisons.

3. Graduates of CIENES are respected throughout Latin America, and are valued for their practical orientation and ability to perform on the job.

4. CIENES training has been very useful to the employing organizations and the graduates, who often obtained increased responsibility or changes in assignment as a result of the training.

5. CIENES training is known, respected, and valued throughout Latin America.

6. The short term courses are better prepared and taught than university courses in the same area, reported students. The student and teacher interaction is close, professors are always helpful.

4. Views of User Institutions

Interviews were held with officials from a wide variety of user institutions, including those from higher education, other training institutions, national statistics institutes, international organizations, planning ministries, educational ministries and census bureaus. Almost unanimously they saw CIENES as an invaluable resource of very high quality. They were dependent on its production of statisticians for the operation of their organizations. Whatever improvement there has been in Latin America in the production, analysis, and use of statistics they attribute largely to CIENES. As a group they failed to discern duplication of effort; on the contrary, they saw the needs as almost unlimited and the resources as scarce. When asked about impressions of CIENES their most common descriptors were "high quality", "seriousness of purpose", "intensive instruction", "continuity of effort", "practical instruction", and "meets our needs". From those interviewed one would have to conclude that CIENES is held in the highest regard by users.

5. Views of Students

The evaluators had an opportunity to meet and talk with approximately forty students in a national course given in Panama, March 1978, to government officials from various ministries, principally the Controlaria General de la República and the Ministerio de Planificacion y Politica Economica. The course was entitled, Primer Curso Nacional de Tecnicas Estadísticas. The students, as in the case of the alumni interviewed, were an impressive group. They had high praise for the course, the level of instruction, and the knowledge and humaneness of the professors. There was a general complaint that the course was very hard and very intensive, but they were happy to have completed it and felt it would be immediately useful in their

work. Since it was in-service training, these students had been away from their jobs all day every day for about four months. This was the second part of a two part course. It appeared clear that they were about to return to their jobs better prepared to fulfill their professional responsibility. The course was taught by two faculty from CIENES and local contracted personnel. The government officials who directed the offices in which the students worked, were equally positive about the outcome of the course, and they were planning for another course in 1979.

6. Extension Courses

CIENES offers off-site regional and national courses. These courses are well received, involve local faculty and are specifically targeted to meet practical user needs. They have a multiplier effect in that they help national bodies develop the skill and experience to set up their own courses. They are among the most useful, practical, and visable things CIENES and OAS do in Latin America because they encourage the growth of national self-reliance and support. However, the development of institutional capacity for statistical training and technical assistance has not been stressed.

7. Operation Costs and Budgets

a. Apparently neither OAS nor CIENES employs a cost accounting system. As a result, it is extremely difficult, if not impossible to determine exactly how and for what purposes budget appropriations are actually spent. When asked, OAS experienced difficulty in producing budget and cost data in an expeditious and efficient manner.

b. There is a general tendency to equate budget with costs. Obviously budgets and operating costs are two different things. One cannot assume that budgeted amounts are always spent for the intended purpose, or actually materialize.

c. CIENES has little autonomy in deciding how best to spend annual budgets. Virtually all decisions are made in Washington.

d. Enrollments at CIENES for most years were largely determined by the amounts OAS budgeted for fellowships.

e. All professional salaries and one administrative salary paid to CIENES personnel are based upon OAS and international scales.

f. Information on costs of institutions of higher education in Latin America, against which CIENES costs might be compared and contrasted are virtually unobtainable according to authoritative sources in the World Bank, OAS, AID and the UN Statistical Office. Reasons for this include, the confidentiality of most university budgets and expenditures, the large range of accounting procedures, the lack of agreement on definition of terms, and the wide range of variable practices found in higher education.

g. Chile contributes approximately 16% of the total CIENES budget either in money or in services. The bulk of Chilean contributions consists of the rental value of the CIENES building, utilities, and the salaries paid to clerical, custodial and library personnel.

h. Very little, if any, financial support is received from sources other than OAS and Chile.

i. An analysis of administrative and professional time allocations by man-months for the year 1977 reveals that CIENES salaries are being allocated for intended purposes. The great majority of faculty time and salaries (72%) goes to teaching, technical assistance, and cooperative activities. Twenty per cent is devoted to organization and supervision, and eight percent to vacations, sick leave, and other absences.

j. A comparison of CIENES full-time professional salaries, with salaries paid by the Asian Statistical Institute of the United Nations, and twelve month salaries of U. S. professors as reported by the American Association of University Professors does not indicate that CIENES salaries are too high. CIENES professors do receive salaries that are higher than Chilean counterparts, but CIENES professors are highly qualified, and work full-time on twelve month contracts.

k. Analysis of cost to the OAS per student over the sixteen year period reveals constant average costs of total enrollment for all courses at a level of $2,150 per student.

l. In general the operational costs of CIENES are not excessive. CIENES programs are administered and operated in a skillful, efficient, and highly professional manner.

8. Program Duplication

a. At least by title, similar courses at introductory levels exist in Chile and elsewhere but there is a strong presumption that few of these match the quality of CIENES courses.

b. The possibility of duplication of the advanced courses and the program in Mathematical Statistics exists in Brazil and perhaps in one or two other countries.

c. There is no duplication of the unique mix of teaching, technical assistance, and cooperative activities carried on by CIENES.

a. CIENES Faculty and students are totally preoccupied with their own program. There was no evidence of the intermixing of staff, students or facilities with the University of Chile even though CIENES is located on a site also occupied by the School of Economics of the University of Chile.

b. CIENES students are able to use the library facilities of the University of Chile, and students at the University may use the CIENES library.

c. Although the University of Chile provides and maintains the building occupied by CIENES and provides other financial support, there was no evidence that the University tries to influence CIENES programs or interfere in any way with CIENES activities.

d. CIENES graduates receive credit for their work if they enroll in programs where statistics courses are required or are elective at the University.

10 Impact of CIENES

Analysis designed to measure the multiplier effect, along with subjective impressions obtained during interviews, indicates that CIENES programs have had a high impact on graduates in that they subsequently rise in their positions or teach statistics to other students.

11. Publications

A publication program would probably be cost effective if oriented towards the practical needs of clients; a scholarly publication would not.

12. Degree vs Short Courses

CIENES offers a degree (M.A.) for completion of Program C as described elsewhere in the report. A legal university degree in most of the American nations has to be awarded by an institution authorized by the State to award degrees, and therefore CIENES could not offer degrees by itself in a legal sense. It could, however, do so in conjunction with national universities if that were negotiated.

In dealing with this conclusion, one must recognize that universities traditionally educate persons through a degree program of several years duration, and that short term specific in-service courses are fairly new and infrequent as degree courses. Degrees

are awarded for longer periods of study for a more varied program of studies than would be the case with CIENES offerings. The CIENES programs as offered, meet the need to train personnel in statistical methods in as short a time as possible, as efficiently as possible, meeting the needs for short term, practical, applied courses as well for the training of future teachers of statistics through a longer, theoretically oriented program. We would conclude that the balance between the degree and short courses is satisfactory.

13. Mix of Staff

a. CIENES has maintained an inter-American character in terms of the mix of professional staff. In 1978 the staff included four professors from Argentina, two from Chile, one from Mexico, one from Peru and four from Uruguay.

b. CIENES also uses local experts from Santiago from time to time to teach under short-term contracts at local salaries.

c. Since CIENES offers courses in countries other than Chile, it often hires local professors on short-term contracts to help with teaching duties.

d. The use of local experts and instructors is a rational and economic method of extending permanent staff time and capabilities. Care should be exercised, however, in selecting local personnel for short-term use to assure continued high quality instruction.

14. Meeting the Needs of Users

Evidence consistently pointed towards the quality, integrity and effectiveness of CIENES in meeting user needs. There seemed to be no question that these needs were met, at least as defined by the users. The table, OCUPACION ACTUAL DE EGRESADOS 1962-1976, is persuasive evidence. (Appendix C) It indicates that for each course, over 97% of the graduates are working for national organizations, and of these, the majority are working for a ministry in the national government or the national bank. It shows that indeed the bulk of the course C graduates are working at the university level, presumably using their education in teaching, research or national service. Very few are working for private corporations or international organizations. This table supports the interview data that indicated graduates do return to their work and are in position to contribute their statistics knowledge and skills to the social and economic development of their countries.

15. Autonomy

Clearly, OAS has to set the mission and objectives of the Center and make the budget decisions, but within these constraints there is room for more administrative and fiscal autonomy at the Center.

16. Fellowships

a. CIENES has depended on fellowships for approximately one-third of total enrollments. Most of the students holding fellowships were enrolled in on-site programs in Santiago.

b. Total fellowships have tended to rise slowly over time, but the distribution among programs has changed. Since 1973 an average of 38% of total fellowships have been granted to those attending off-site courses.

c. Inflation may make it increasingly difficult for students to accept fellowships and for OAS to maintain fellowships at a constant number per year.

d. Some students indicated that notice of fellowship awards sometimes arrive too late to enable them to get to Santiago before programs began.

e. The status of fellowships is not entirely clear due to occasional discrepancies in statistical data, the dearth of information on national fellowships and the fact that other OAS fellowships, aside from those in the CIENES budget, are not always designated as such.

17. Sub-centers

a. CIENES does not operate sub-centers in the strict sense of that term. It has offered a large number of national programs in most of the countries of South and Central America, usually for specific purposes, of short duration, at the request of sponsoring governmental agencies, and covering only material in the basic program.

b. It has been suggested that CIENES operate at least two sub-centers. Locations most often mentioned include Panama to serve Mexico and Central America, Brazil to serve Venezuela, Argentina, Uruguay, and Paraguay. Santiago would serve the Andean countries. Few people have a viable solution for the Caribbean nations mostly because of the diversity of languages encountered there.

c. The operation of several CIENES sub-centers as opposed to local regional centers run by the countries involved would divert resources away from the unique function which CIENES is now and could be playing to a greater degree in building local national capacities.

ASSUMPTIONS UNDERLYING CONSULTANTS' RECOMMENDATIONS

Assumption #1 Effective, well-organized, high quality, influential institutions with an international scope of operations are the product of years of effort, the investment of sizable resources and the application of skilled leadership. Such institutions represent valuable investments to be carefully protected from too abrupt changes in program and budget support.

Assumption #2 In light of the rapid pace of societal change in virtually every country of the world, the mission of institutions established to serve social needs at one period of time, need to be periodically reassessed and redirected in line with new social realities and demands.

Assumption #3 Every country needs to be developing the capability to produce reasonably complete and accurate statistical data covering social and economic conditions. In addition, each country needs to have a sufficient number of persons qualified to analyze data in these information systems. All but a very few Latin American countries are at present approaching this independent national capacity for the development of statistical personnel although the presence of CIENES graduates provides the seed for further development.

Assumption #4 The prime mission of internationally supported institutions should be to maximally benefit their international clients and in the case of statistical training, to aim towards the development of independent national capacities within a cooperative inter-American framework.

Assumption #5 The most important use of international funds is to support programs with high multiplier effect especially pioneer, demonstration, or exemplary projects whose objectives can be taken over by client countries, thus reducing or eliminating the function of the original innovation.

RECOMMENDATIONS

Introduction

CIENES has operated for 16 years almost exclusively as an educational unit of OAS dedicated to the training of persons in the methods and techniques of gathering and analysing statistical information. During recent years CIENES has been increasing its outreach by conducting more and more of its courses in other countries. The major recommendation that follows is made in the light of this trend, the substantial number of well-trained CIENES graduates in Latin American countries and the opportunity now, to utilize this critical mass in helping nations develop local national institutional capacities for the production of their own statisticians.

Recommendation A - Redirection of CIENES Missions

The CIENES mission should be redirected gradually from one of mostly teaching to one of mostly technical assistance to institutions in member countries. As a corrollary, resources will have to be reallocated to bring about the redirection.

This recommendation presumes that OAS budget support would remain constant during the phase-over from the present teaching function to the new institutional technical assistance function. Thus, during successive years of the transition period OAS funds should be cumulatively withdrawn from the teaching function and applied to that of institutional technical assistance. For example, during the first transition year 20% of budget would go for technical assistance and 80% for the teaching function. In subsequent years the proportion would change thus -- 40% and 60%, 60% and 40%, 80% and 20% and finally 100% for technical assistance and 0% for teaching.

As the CIENES mission is redirected, the present teaching function should phase down and eventually be taken over by some other entity.

It is recommended that the transition begin in 1980 and end in 1985, thus providing five years to carry out an orderly phase-out of one form of operation and structure, and phase-in of another.

By 1985 CIENES would consist of a body of statistical institutional building experts available for providing technical assistance on institution building and on a wide spectrum of statistical matters to institutions in member countries.

CIENES' new mission would be to help countries develop their own local CIENES institutions.

Recommendation B - Implementation of Plan

In order to implement this recommendation a detailed plan for the re-orientation and re-structioning of CIENES should be developed and submitted in time for implementation by January 1, 1980.

1. Involve the present CIENES Director and staff in making the re-development plan.
2. Establish initial contacts with governments of member states and other statistical users to assess demands.

3. Conduct a survey as soon as possible to determine the extent and quality of statistics education in all of the member countries as another basis for needs assessment and ways in which CIENES can help meet needs.

4. Increasingly, during the five year transition period, transfer responsibility for teaching extension courses by providing in-service training to local national professors.

5. As redirection during the five year period proceeds, concentrate the diminishing teaching resources on graduate teaching and encourage each nation to assume more responsibility for basic short term in-service training either in institutions of higher education or in ministries.

6. In order to fulfill this larger role, establish collaboration and cooperation between CIENES and other institutions such as CEPAL, ISI, ECLA, U.N. Statistical Office, Interamerican Statistical Institute, American Statistical Association, universities, central banks, census agencies, international funding agencies such as UNDP, ILO, and FAO, and international donor agencies such as IBRD and AID. A number of these organizations are concerned about the lack of coordination between their various efforts in the field. The new CIENES should seek an active role in serving as an integrative, coordinating institution for the many fragmented and discrete projects and activities dealing with statistics in Latin America.

Recommendation C - Possible Cost Savings

Careful consideration should be given to possible ways in which budget costs could be reallocated by a phased process from the present teaching function to the new technical assistance function. This should be done without seriously hurting the former while building up as fast as possible the latter. For example:

1. Transfer per diem and travel costs of CIENES personnel participating in national courses to the host country or host institution. Possible amount for transfer: $ 8,000 to $ 10,000 per year.

2. Ask member countries to pay half of fellowship amounts for their citizens. The matching could be in dollar amount or number of fellowships. Possible amount for transfer: $ 160,000 per year at present level of fellowship awards.

3. Ask Chile to assume responsibility for all personnel costs at CIENES except for the Director and professional staff. Possible amount for transfer: $ 15,000 per year.

4. Permit CIENES to receive grants from other sources for equipment and perhaps fellowships. Possible amount for transfer: $ 10,000 per year on equipment.

5. As implementation of the five year plan proceeds, negotiate with a university to phase in its support of personnel costs and invite each country still interested in the teaching program to subsidize a professorial post, thus freeing up substantial funds for reallocation.

Recommendation D - Greater Fiscal Autonomy

In order to provide an orderly phase-out of OAS support for the CIENES teaching function, the autonomy of CIENES in fiscal matters should be increased. CIENES would become more viable and self-supporting if as its mission is redirected, it were given more freedom to seek grants, do work for contract, and perform some services on a fee basis. The work of the center is of such high quality and so important that users of the services should be willing to pay for them. Sources of funds for training might include ministries of the inter-American countries such as ministries of education, development, planning and finance; offices of statistics and census; international bodies, such as U.S.A.I.D., banks, private corporations and foundations. CIENES might indeed, with careful planning, become a prototype of public-private non-profit inter-American institution providing top level teaching, development assistance, and consultative service throughout the American states. The idea is to expand and capitalize on a viable high-quality institution responsive to its mission.

Recommendation E - Subsidiary Recommendations

A. Outreach Activities

1. Develop an active professional alumni association and help each nation to develop its own national association of alumni to, (a) foster interchange of ideas, (b) promote professional growth, (c) develop support for statistical training and professional standards, (d) foster continuing communication between CIENES and its graduates, (e) publicize the needs of the field for training resources, (f) produce one or more newsletters dealing with alumni affairs, (g) publish an annual list of alumni, (h) promote social and human relations of a group of professionals with a common bond.

2. Using CIENES alumni as a base, establish a professional organization of statisticians.

3. Organize and/or support regional conferences and seminars in cooperation with other institutions on statistical techniques and methods, training, data collection and analysis.

4. Stimulate the adoption of and provide technical assistance in census-taking based on sampling techniques and probabalistic models.

5. Develop close, formal agreements with selected institutions of higher education to grant degrees, to grant credit to CIENES work, to foster professional exchanges including exchange of staff, and to help such institutions to develop their own training of statisticians.

6. Although regional locally operated centers of statistical training and technical assistance activities should be encouraged by CIENES, the creation of CIENES -- operated sub-centers would not only be costly but would divert resources from the new mission of CIENES.

7. Strongly encourage private and public institutions of higher education in member countries to strengthen statistical education in existing programs or to develop new programs. The goal might be achieved through a series of direct grants to help get new programs underway, not to undermine, however, local initiative and self-help.

B. Administration

8. Shift emphasis in CIENES training toward more practical applications for example; internships, project reports, theses in the students' place of work after formal course work is completed.

9. Speed up the student selection process and the communications with selected students so that they could prepare themselves before beginning the training, and could have a period of time to settle in before training begins.

10. In a few cases the CIENES class size is low -- nine students, for example. The size of facilities and nature of instruction might make possible more normal class sizes of between twenty and thirty students, thus increasing the efficiency of CIENES by reducing cost per student.

11. Whenever feasible, place emphasis on the use of computer techniques for data-gathering and processing.

12. Statistics on CIENES fellowships should be revalidated in order to remove descrepancies and make more clear the source of funds, e.g., CIENES budget, other OAS offices, national governments, etc.

13. Establish a cost accounting system for CIENES for more efficient management.

14. Request CIENES to submit an annual report to its supervising department or division in OAS. At a minimum, the report should include the following items: enrollments. faculty list, faculty activity, cost analysis of enrollments, curriculum changes and innovations, number of programs and courses offered, number of graduates by program, review of off-site activities, review of cooperative activities, Chilean and other contribution to support operations, equipment inventory, library inventory, supply inventory.

C. Publications

15. Publish and distribute technical materials related to the statistical needs of the institutions served, perhaps in the form of a quarterly journal or in the form of a series of technical papers.

16. Establish and provide an information service with respect to national and international meetings and seminars, other sources of technical assistance, and international developments, perhaps in the form of a newsletter.

17. Find ways to publish more of the work of students and professors, concentrating on practical articles of an empirical nature.

18. Publish elementary statistics texts and workbooks in Spanish as a first priority and other languages as a second priority.

19. On a trial basis, the OAS publication "REVISTA ESTADISTICA" should be transferred along with appropriate resources to CIENES jurisdiction.

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